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Cities are hot

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published in

Newsletter Regional Science Association International
2019

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citation for published version (APA)

Koomen, E. (2019). Cities are hot. *Newsletter Regional Science Association International*, 18(may), 9-10.

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are related to the growing prevalence of chronic diseases (e.g., cardiovascular diseases, depression, and dementia). By doing so, researchers are trying to help facing the structural problems of cities mentioned above. If we are to follow this line of thought, we may come to the conclusion that the next generation of 'healthy cities' will not only try to reduce exposure to adverse environmental conditions and not only promote healthy activity. They will enable people to be less stressed, to interact with other people and be socially involved, to consume leisure activities they enjoy on a regular basis and maybe even be happier. Cities of the next generation will not 'just be healthy' they (and their inhabitants) will be vital.

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GEOGRAPHIES OF HEALTHY EATING

Dr Maartje Poelman (Department of Human Geography and Spatial Planning, Utrecht University, the Netherlands) & Dr Lukar Thornton (Deakin University, Geelong, Australia, Institute for Physical Activity and Nutrition (IPAN), School of Exercise and Nutrition Sciences)

IN THE LIGHT of healthy urban living, the 'food environment' is a widely studied topic. In recent decades, agricultural, technical, political and organizational developments have resulted in a food system in many developed countries that promotes unhealthy dietary patterns at the population level. Among public health researchers and health geographers, there is a large interest in people's use of the urban food environment and subsequently its impact food choices and health. Local governmental policy makers on the other hand are interested in insights and solutions to create healthy and sustainable cities, also endorsing healthy food choices. To illustrate, over 180 cities collaborating in the Milan Urban Food Policy Pact that pursue global food security and sustainable developments in cities. In this context, strategic action plans are developed and experiences between cities are shared. However, important research questions with respect to the role of urban food environments on dietary behaviours remain unanswered. We expect that two research domains with respect to food environments (vertical living and smart technological developments) will expand in upcoming years.

Apartment living is becoming more prevalent in many cities as a response to population growth. The shift to apartments from traditional housing will likely result in many lifestyle changes. Apartments are often much smaller than traditional detached houses and may have restrictive kitchens with regards to cooking facilities, food storage space, food preparation areas and eating space. How this impacts on the food practices of occupants in apartments remains unknown and there is much to learn about how apartments and high-density neighborhoods should be designed to encourage health food choices. Digitalization and smart technological developments created an upcoming market of online food shopping and meal ordering. This shaped an intangible virtual setting in which food choices can take place and expand consumers' food options beyond their actual living environment. Consumer's use of the

online market expanded recently and is expected to grow extensively worldwide in the upcoming years. For example, Takeaway.com (online meal-delivery platform in continental Europe) had 22.3 million orders in the third quartile of 2018, representing an increase of 31% compared to 2017. Moreover, the total of U.S. online grocery sales was about \$14.2 billion in 2017 and is expected to increase to nearly \$30 billion by 2021.

Presently within the food environment field, many studies examine the associations between residential food environments (e.g. number of fast food outlets within 1km of home or the distance between home and the nearest fast food restaurant) and eating behaviors (e.g. frequency of fast food consumption). Notwithstanding the growing acknowledgement that food environmental exposure goes beyond the residential area, the online environment has changed the way food is now accessible when at home by making a wider variety of stores available and from potentially further away. By not including the digital food environment, research may underestimate individual food outlet exposure may be misrepresenting associations between the built food environment and diet or health outcomes if one is ordering frequently via online meal services. In the years ahead, research should assess how and what features of these online settings have an impact on food choices and health as well as on its side effects (e.g. package waste, traffic).

CITIES ARE HOT

Eric Koomen (dept. Spatial Economics/SPINlab, Vrije Universiteit Amsterdam, the Netherlands)

CITIES ARE GREAT places to live, as is extensively documented in urban economic literature (e.g. Glaeser, 2012; Bettencourt et al. 2010). They offer employment, interaction opportunities and plenty of amenities. Their agglomeration benefits, for example, translate into higher labour productivity and higher wages and thus continue to attract more inhabitants every year. Yet, cities are not the most healthy places to live in. Their interaction potential, for example, usually goes hand in hand with congestion, traffic accidents and air pollution. Ongoing urban development results in the loss of urban green space that offers recreational and health benefits to city dwellers. These health impacts likely relate to reducing stress and offering opportunities for physical exercise (Maas et al., 2006). Green spaces, furthermore, contribute to limiting the urban heat island effect. This effect refers to the fact that the buildings and other artificial surfaces in cities retain heat in cities longer than in rural areas and thus expose city dwellers to higher temperatures that especially during heat waves result in increased mortality (e.g. Åström et al. 2011).

As part of their Urban Environment Lab, students at Amsterdam University College measured urban temperatures for several consecutive years and were able to show that even in the temperate climate of Amsterdam the urban heat island effect may range up to 3°C on moderately warm summer days (see Koomen and Diogo, 2017). Using several years of collected data we were able to build explanatory models of temporal and spatial variation in the magnitude of the local urban heat island effect. The effect is best observed on sunny days with low wind speeds, while the daily maximum temperature, extent of the urban area in within a 1km radius and the amount of urban volume (cubic metres of buildings) within the same radius determine the magnitude of the effect. In a subsequent study we showed the mitigating impact of tree volume on these urban temperatures (Rafiee et al., 2016). Using the explanatory model



RSAI NEWSLETTER

THE REGIONAL SCIENCE ASSOCIATION INTERNATIONAL

new series 18 - may 2019

in combination with scenarios of future urban development and climate change for 2040 we were able to assess potential future changes in the urban heat island effect. The simulations indicate that strong local temperature increases are likely due to urban development. Climate change will, on average, have a limited impact on these changes. Large impacts can, however, be expected from the combination of urban development and potentially more frequent occurrences of extreme climatic events such as heat waves. Spatial planning strategies that reduce the lateral spread of urban development will thus greatly help to limit a further increase in urban heat island values. Recent analyses of urban development in the Netherlands suggest that cities have developed favourably over the past 18 years as a substantial part of the recent increase in housing stock was located within existing urban areas (Claassens and Koomen, in prep.). This process limits the need for urban extensions and was thus far concentrated in industrial and residential neighbourhoods, resulting in a limited loss of urban green space. Whether urban development shall continue along these lines will depend on general demographic trends, the balance between attraction and repulsion of urban (dis)amenities and the ability of policymakers to steer these.

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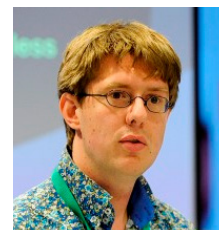
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EDITORS

Many thanks to Andrea Caragliu (left), who has edited this newsletter, together with Graham Clarke (middle), for many years. Andrea recently became the executive director of RSAI, and his place as newsletter editor is taken over by Martijn Smit of Utrecht University (right).



COLOPHON

The newsletter of the Regional Science Association International (RSAI) appears two times a year and contains information about upcoming conferences and meetings, recent events and publications, and short contributions on current themes. Contributions are most welcome, and can be submitted directly to Martijn Smit (m.j.smit@uu.nl) and/or Graham Clarke (g.p.clarke@leeds.ac.uk).